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RECREATIONAL PILOT

PRACTICAL TEST STANDARDS

for

AIRPLANE

(Single-Engine Land)

OFFICE OF FLIGHT OPERATIONS
Washington, D.C. 20591

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RECREATIONAL PILOT

PRACTICAL TEST STANDARDS

1989

FLIGHT STANDARDS SERVICE

FOREWORD

This Recreational Pilot Practical Test Standards book has been published by the Federal Aviation Administration (FAA) to establish the standards for the recreational pilot certification practical tests for airplanes and rotorcraft. FAA inspectors and designated pilot examiners will conduct practical tests in compliance with these standards. Flight instructors and applicants will find these standards helpful in practical test preparation.

D.C. Beaudette
Acting Director, Flight Standards Service

INTRODUCTION

The Aviation Standards National Field Office of the FAA has developed this book to be used as a standard by FAA inspectors and designated pilot examiners when conducting recreational pilot airmen practical tests. Flight instructors are expected to use this book in preparing applicants for practical tests.

This book contains standards that set forth the practical test requirements for recreational pilot certification in airplane and rotorcraft category aircraft.

This book may be purchased from:

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The FAA gratefully acknowledges the valuable input by organizations and individuals in the promotion and development of this book.

Comments about this book should be sent to:

U.S. Department of Transportation
Federal Aviation Administration
Aviation Standards National Field Office
Examinations Standards Branch, AVN-130
P.O. Box 25082
Oklahoma City, OK 73125

Practical Test Standard Concept

Federal Aviation Regulations (FAR's) specify the areas in which knowledge and skill must be demonstrated by the applicant before the issuance of a pilot certificate or rating. The FAR's provide the flexibility to permit the FAA to publish practical test standards containing specific TASKS (procedures and maneuvers) in which pilot competency must be demonstrated. The FAA will add, delete, or revise TASKS whenever it is determined that changes are needed in the interest of safety. Adherence to provisions of the regulations and the practical test standards is mandatory for the evaluation of pilot applicants.

Flight Instructor Responsibility

An appropriately rated flight instructor is responsible for training the student to the acceptable standards as outlined in the objective of each TASK within the appropriate recreational pilot practical test standard. The flight instructor must certify that the applicant is able to perform safely as a pilot and is competent to pass the required practical test for the certificate or rating sought.

Examiner[1] Responsibility

The examiner who conducts the practical test is responsible for determining that the applicant meets standards outlined in the objective of each TASK within the appropriate practical test standard. The examiner shall meet this responsibility by accomplishing an ACTION that is appropriate for each TASK. For each TASK that involves "knowledge only" elements, the examiner will orally quiz the applicant on those elements. For each TASK that involves both "knowledge and skill" elements, the examiner will orally quiz the applicant regarding knowledge elements and ask the applicant to perform the skill elements. The examiner will determine that the applicant's knowledge and skill meet the objective in all required TASKS. Oral testing may be used at any time during the practical test.

Practical Test Book Description

This book contains the following Recreational Pilot Practical Test Standards:

Section 1	Airplane, Single-Engine Land
Section 2	Airplane, Single-Engine Sea
Section 3	Rotorcraft, Helicopter
Section 4	Rotorcraft, Gyroplane

The AREAS OF OPERATION listed throughout each practical test standard contain phases of flight arranged in a logical sequence of occurrence, beginning with flight preparation and ending with the conclusion of the flight. The examiner, however, may conduct the practical test in any sequence he/she desires provided that sequence results in a complete and efficient test.

[1]The word "examiner" is used throughout this book to denote either the FAA inspector or FAA designated pilot examiner who conducts an official flight test.

The TASKS are procedures and maneuvers appropriate to an AREA OF OPERATION. The AIRCRAFT CATEGORIES AND CLASSES appropriate to the TASKS are abbreviated in capital letters within parentheses immediately following each TASK. The meaning of each abbreviation follows:

ASEL	Airplane, Single-Engine Land
ASES	Airplane, Single-Engine Sea
RH	Rotorcraft, Helicopter
RG	Rotorcraft, Gyroplane

The number after the pilot operation relates that TASK to the regulatory requirements.

The REFERENCE identifies the publication(s) that describe(s) the TASK. Descriptions of TASKS are not included in the standards because this information can be found in the listed references. Publications other than those listed may be used for references if their content conveys substantially the same meaning as the referenced publications.

References upon which this practical test book is based include:

FAR Part 61	Certification: Pilots and Flight Instructors
FAR Part 91	General Operating and Flight Rules
AC 00-6	Aviation Weather
AC 00-45	Aviation Weather Services
AC 61-13	Basic Helicopter Handbook
AC 61-21	Flight Training Handbook
AC 61-23	Pilot's Handbook of Aeronautical Knowledge
AC 61-84	Role of Preflight Preparation
AC 67-2	Medical Handbook for Pilots
AC 91-13	Cold Weather Operation of Aircraft
AC 91-55	Reduction of Electrical System Failures Following Engine Starting
AIM	Airman's Information Manual

NOTE: The latest revision of the references cited should be used.

The OBJECTIVE lists, in sequence, the important elements that must be satisfactorily performed to demonstrate competency in a TASK. The OBJECTIVE includes:

(1) specifically what the applicant should be able to do;
(2) the conditions under which the TASK is to be performed; and
(3) the minimum acceptable standards of performance.

THE FOLLOWING EXAMPLE ILLUSTRATES THE FORMAT OF THE STANDARD:

I. AREA OF OPERATION:

PREFLIGHT PREPARATION

A. **TASK: CERTIFICATES AND DOCUMENTS** (ASEL)

PILOT OPERATION - 1

REFERENCES: FAR Parts 61 and 91; AC 61-21, AC 61-23; Pilot's Operating Handbook and FAA-Approved Airplane Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the appropriate -
   a. recreational pilot privileges and limitations.
   b. medical certificate, class, and duration.
   c. personal pilot logbook or flight record.
2. Exhibits knowledge by locating and explaining the significance and importance of the -
   a. airworthiness and registration certificates.
   b. operating limitations, handbooks, and manuals.
   c. weight and balance data.
   d. maintenance requirements and appropriate records, preventive maintenance, and maintenance that may be performed by the pilot.

Use of the Practical Test Book

The FAA requires that each practical test be conducted in strict compliance with the appropriate practical test standards for the issuance of a pilot certificate or rating. When using the practical test book, the examiner must evaluate the applicant's knowledge and skill in sufficient depth to determine that the standards of performance listed for all TASKS are met.

When the examiner determines, during the performance of one TASK, that the knowledge and skill objective of another TASK is met, it may not be necessary to require the performance of the other TASK.

When the demonstration of a TASK is not practicable; e.g., operations over a congested area or unsuitable terrain, a demonstration that does not conform to the manufacturer's recommendations, or for other valid reasons, competency should be evaluated by oral testing.

The examiner is not expected to follow the precise order in which the AREAS OF OPERATION and TASKS appear in each standard. The examiner may change the order, or in some instances combine TASKS to conserve time. Examiners should develop a plan of action that includes the order and combination of TASKS to be demonstrated by the applicant in a manner that will result in an efficient and valid test. It is of utmost importance that the examiner accurately evaluates the applicant's ability to perform safely as a pilot.

Examiners will place special emphasis upon areas of aircraft operation which are most critical to flight safety. Among these areas are precise aircraft control and sound judgment in decision making. Although these areas may not be shown under each TASK, they are essential to flight safety and will receive careful evaluation throughout the practical test. If these areas are shown in the OBJECTIVE, additional emphasis will be placed on them. THE EXAMINER WILL ALSO EMPHASIZE STALL/SPIN AWARENESS, SPATIAL DISORIENTATION, COLLISION AVOIDANCE, WAKE TURBULENCE AVOIDANCE, LOW-LEVEL WIND SHEAR, CHECKLIST USAGE, AND OTHER AREAS AS DIRECTED BY FUTURE EDITIONS OF THIS BOOK.

Use of Distractions During Practical Tests

Numerous studies indicate that many accidents have occurred when the pilot's attention has been distracted during various phases of flight. Many accidents have resulted from engine failure during takeoffs and landings where safe flight was possible if the pilot had used correct control technique and divided attention properly.

Distractions that have been found to cause problems are:

(1) preoccupation with situations inside or outside the cockpit;
(2) maneuvering to avoid other traffic; or
(3) maneuvering to clear obstacles during takeoffs, climbs, approaches, or landings.

To strengthen this area of pilot training and evaluation, the examiner will provide realistic distractions throughout the flight portion of the practical test. Many distractions may be used to evaluate the applicant's ability to divide attention while maintaining safe flight. Some examples of distractions are:

(1) simulated engine failure;
(2) identifying a field suitable for emergency landings;
(3) identifying features or objects on the ground;
(4) reading the outside air temperature gauge;
(5) removing objects from the glove compartment or map case;
(6) questioning by the examiner.

Practical Test Prerequisites

An applicant for a practical test is required by FAR's to:

(1) pass the appropriate pilot written test since the beginning of the 24th month before the month in which the flight test is taken;
(2) obtain the applicable instruction and aeronautical experience prescribed for the pilot certificate or rating sought;
(3) possess a current medical certificate appropriate to the certificate or rating sought;
(4) meet the age requirement for the issuance of the certificate or rating sought; and
(5) obtain a written statement from an appropriately certificated flight instructor certifying that the applicant has been given flight instruction in preparation for the practical test within 60 days preceding the date of application. The statement shall also state that the instructor finds the applicant competent to pass the practical test, and that the applicant has satisfactory knowledge of the subject area(s) in which a deficiency was indicated by the airman written test report.

Aircraft and Equipment Requirements for the Practical Test

The applicant is required to provide an appropriate and airworthy aircraft for the practical test. The aircraft must be equipped for and its operating limitations must not prohibit the pilot operation required on the test.

Satisfactory Performance

The ability of an applicant to perform the required TASKS is based on:

(1) executing TASKS within the aircraft's performance capabilities and limitations, including use of the aircraft systems;
(2) executing emergency procedures and maneuvers appropriate to the aircraft;
(3) piloting the aircraft with smoothness and accuracy;
(4) exercising good judgment;
(5) applying aeronautical knowledge; and
(6) showing mastery of the aircraft within the standards outlined in this book, with the successful outcome of a TASK never seriously in doubt.

Unsatisfactory Performance

If, in the judgment of the examiner, the applicant does not meet the standards of performance of any TASK performed, the associated PILOT OPERATION is failed, and therefore, the practical test is failed. The examiner or applicant may discontinue the test any time after the failure of a PILOT OPERATION makes the applicant ineligible for the certificate or rating sought. The test will be continued ONLY with the consent of the applicant. The applicant is entitled credit for only those TASKS satisfactorily performed. During a retest, however, and at the discretion of the examiner, any TASK may be re-evaluated, including those previously passed.

The tolerances stated in the OBJECTIVE represent the minimum performance expected in good flying conditions.

Consistently exceeding tolerances stated in the objective or failure to take prompt corrective action when tolerances are exceeded, is unsatisfactory performance.

Any action, or lack thereof, by the applicant which requires corrective intervention by the examiner to maintain safe flight will be disqualifying. It is vitally important that the applicant uses proper and effective scanning techniques to clear the area before performing maneuvers. Ineffective performance in these areas will be disqualifying.

Recording Unsatisfactory Performance

The term PILOT OPERATION is used in regulations to denote areas (procedures and maneuvers) in which the applicant must demonstrate competency prior to being issued a pilot certificate. This practical test book uses the terms AREA OF OPERATION and TASK to denote areas in which competency must be demonstrated. When a disapproval notice is issued, the examiner will record the applicant's unsatisfactory performance in terms of PILOT OPERATIONS appropriate to the practical test conducted.

SECTION 1

AIRPLANE
SINGLE-ENGINE LAND
(ASEL)

Practical Test Standard

CONTENTS

I. AREA OF OPERATION:

PREFLIGHT PREPARATION

A. TASK: CERTIFICATES AND DOCUMENTS (ASEL)

PILOT OPERATION - 1

REFERENCES: FAR Parts 61 and 91; AC 61-21, AC 61-23; Pilot's Operating Handbook and FAA-Approved Airplane Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the appropriate -
   - **a.** pilot certificate privileges and limitations.
   - **b.** medical certificate and expiration.
   - **c.** personal pilot logbook or flight record.
2. Exhibits knowledge by locating and explaining the significance and importance of airplane -
   - **a.** airworthiness and registration certificates.
   - **b.** operating limitations, handbooks, or manuals.
   - **c.** weight and balance data.
   - **d.** maintenance requirements and appropriate records.

B. TASK: OBTAINING WEATHER INFORMATION (ASEL)

PILOT OPERATION - 1

REFERENCES: AC 00-6, AC 00-45, AC 61-21, AC 61-23, AC 61-84.

Objective. To determine that the applicant:

1. Exhibits knowledge of aviation weather information by obtaining, reading, and analyzing -
   - **a.** weather reports and forecasts.
   - **b.** weather charts.
   - **c.** pilot weather reports.
   - **d.** SIGMETs and AIRMETs, including wind-shear reports.
   - **e.** Notices to Airmen.
2. Makes a competent go/no-go decision based on the available weather information.

C. TASK: DETERMINING PERFORMANCE AND LIMITATIONS (ASEL)

PILOT OPERATION - 1

REFERENCES: AC 61-21, AC 61-23, AC 61-84; Pilot's Operating Handbook and FAA-Approved Airplane Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining airplane weight and balance, performance, and limitations, including adverse aerodynamic effects of exceeding the limits.
2. Uses the available and appropriate performance charts, tables, and data.
3. Computes the weight and balance and determines that the weight and center of gravity will be within limits during all phases of the flight.
4. Calculates airplane performance, considering density altitude, wind, terrain, and other pertinent conditions.
5. Describes the effect of atmospheric conditions on airplane performance.
6. Makes a competent decision on whether the required performance is within the operating limitation of the airplane.

D. TASK: AIRPLANE SYSTEMS (ASEL)

PILOT OPERATION - 1

REFERENCES: AC 61-21; Pilot's Operating Handbook and FAA-Approved Airplane Flight Manual.

Objective. To determine that the applicant exhibits knowledge by explaining the airplane systems as appropriate:

1. Primary flight controls and trim.
2. Wing flaps, leading edge devices, and spoilers.
3. Flight instruments.
4. Landing gear -
   - **a.** brakes and tires.
   - **b.** nosewheel or tailwheel steering.
5. Engine -
   - **a.** controls and indicators.
   - **b.** induction, carburetion, and injection.
   - **c.** exhaust.
6. Propeller.
7. Fuel system -
   - **a.** tanks, pumps, controls, and indicators.
   - **b.** fueling procedures.
   - **c.** normal operation.
8. Hydraulic system -
   - **a.** controls and indicators.
   - **b.** pumps and regulators.
   - **c.** normal operation.
9. Electrical system -
   - **a.** controls and indicators.
   - **b.** alternators or generators.
   - **c.** battery, ground power.
   - **d.** normal operation.

10. Environmental system –

    a. heating.
    b. ventilation.
    c. controls and indicators.

11. Ice prevention and elimination.

12. Vacuum system.

E. TASK: AEROMEDICAL FACTORS (ASEL)

PILOT OPERATION – 1

REFERENCES: AC 61-21, AC 67-2; AIM.

Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to aeromedical factors, including the symptoms, effects, and corrective action of –

    a. hypoxia.
    b. hyperventilation.
    c. middle ear and sinus problems.
    d. spatial disorientation.
    e. motion sickness.
    f. carbon monoxide poisoning.

2. Exhibits knowledge of the effects of alcohol and drugs, and the relationship to flight safety.

3. Exhibits knowledge of nitrogen excesses during scuba dives, and how this affects a pilot during flight.

F. TASK: VISUAL INSPECTION (ASEL)

PILOT OPERATION - 1

REFERENCES: AC 61-21; Pilot's Operating Handbook and FAA-Approved Airplane Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of airplane visual inspection by explaining the reasons for checking all items.
2. Inspects the airplane by following a checklist.
3. Determines that the airplane is in condition for safe flight emphasizing -
   - **a.** fuel quantity, grade, and type.
   - **b.** fuel contamination safeguards.
   - **c.** fuel venting.
   - **d.** oil quantity, grade, and type.
   - **e.** fuel, oil, and hydraulic leaks.
   - **e.** flight controls.
   - **f.** structural damage.
   - **g.** exhaust.
   - **h.** tiedowns, control locks, and wheel chocks removal.
   - **i.** ice and frost removal.
   - **j.** security of baggage, cargo, and equipment.

G. TASK: COCKPIT MANAGEMENT (ASEL)

PILOT OPERATION - 1

REFERENCE: AC 61-21.

Objective. To determine that the applicant:

1. Exhibits knowledge of cockpit management by explaining related safety and efficiency factors.
2. Organizes and arranges the material and equipment in an efficient manner.
3. Ensures that the safety belts and shoulder harnesses are fastened.
4. Adjusts and locks the foot pedals or pilot's seat to a safe position, and ensures full control movement.
5. Briefs the occupants on the use of safety belts and emergency procedures.

H. TASK: ENGINE START (ASEL)

PILOT OPERATION - 1

REFERENCES: AC 61-21, AC 61-23, AC 91-13, AC 91-55; Pilot's Operating Handbook and FAA-Approved Airplane Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining engine starting procedures, including starting under various atmospheric conditions.
2. Performs all the items on the before-starting and starting checklists.
3. Accomplishes a safe starting procedure with emphasis on -
   - **a.** positioning the airplane to avoid creating hazards.
   - **b.** determining that the area is clear.
   - **c.** adjusting the engine controls.
   - **d.** setting the brakes.
   - **e.** preventing undesirable airplane movement after engine start.
   - **f.** avoiding excessive engine RPM and temperatures.
   - **g.** checking the engine instruments after engine start.

I. **TASK: TAXI** (ASEL)

PILOT OPERATION - 1

REFERENCE: AC 61-21.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining safe taxi procedures.
2. Adheres to signals and clearances and follows the proper taxi route.
3. Performs a brake check immediately after the airplane begins moving.
4. Controls taxi speed without excessive use of brakes.
5. Recognizes and avoids hazards.
6. Positions the controls for the existing wind conditions.
7. Avoids creating hazards to persons or property.

J. TASK: PRETAKEOFF CHECK (ASEL)

PILOT OPERATION - 1

REFERENCES: AC 61-21; Pilot's Operating Handbook and FAA-Approved Airplane Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge of the pretakeoff check by explaining the reasons for checking the items.
2. Positions the airplane to avoid creating hazards.
3. Divides attention inside and outside of the cockpit.
4. Ensures that the engine temperature is suitable for runup and takeoff.
5. Follows the checklist.
6. Adjusts each control or switch as prescribed by the checklist.
7. Ensures that the airplane is in safe operating condition emphasizing -
   a. flight controls and instruments.
   b. engine and propeller operation.
   c. seat adjustment and lock.
   d. safety belts and shoulder harnesses fastened and adjusted.
   e. doors and windows secured.
8. Reviews the critical takeoff performance airspeeds and distances.
9. Describes takeoff emergency procedures.

II. AREA OF OPERATION:

AIRPORT AND TRAFFIC PATTERN OPERATION

A. TASK: AIRPORT AND RUNWAY MARKING AND LIGHTING (ASEL)

PILOT OPERATION - 2

REFERENCES: AC 61-21; AIM.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining airport and runway markings and lighting aids.
2. Identifies and interprets airport, runway, and taxiway marking aids.
3. Identifies and interprets airport lighting aids.

B. TASK: TRAFFIC PATTERN OPERATION (ASEL)

PILOT OPERATION - 2

REFERENCES: AC 61-21, AC 61-23; AIM.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining traffic pattern procedures at uncontrolled airports, including collision and wind-shear avoidance.
2. Follows the established traffic pattern procedures according to instructions or rules.
3. Corrects for wind drift to follow the appropriate ground track.
4. Maintains proper spacing from other traffic.
5. Maintains traffic pattern altitude, ±100 feet.
6. Maintains desired airspeed, ±10 knots.
7. Completes the prelanding cockpit checklist.
8. Maintains orientation with the runway in use.
9. Completes a turn to final approach at least one-fourth mile from the approach end of the runway.

C. TASK: POSTFLIGHT PROCEDURE (ASEL)

PILOT OPERATION - 2

REFERENCES: AC 61-21, AC 61-23, Pilot's Operating Handbook and FAA-Approved Airplane Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the elements of after-landing procedures, including parking, temperature stabilization, shutdown, securing, and postflight inspection.
2. Selects the designated or suitable parking area, considering wind conditions and obstructions.
3. Parks the airplane properly.
4. Follows the checklist for engine shutdown, cockpit securing, and deplaning passenger.
5. Secures the airplane properly.
6. Performs a satisfactory postflight inspection.

D. TASK: RADIO COMMUNICATIONS (ASEL)

PILOT OPERATION – 2

REFERENCES: AC 61-21, AC 61-23; AIM.

NOTE: For the applicant whose airplane IS NOT radio equipped, this task will be orally tested ONLY. For the applicant whose airplane IS radio equipped, this task may be simulated in flight by the examiner.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining two-way radio communication procedures recommended for use at uncontrolled airports.
2. Selects the frequencies appropriate for the facilities to be used (UNICOM, FSS, or Flight Watch facilities).
3. Transmits requests and reports using recommended standard phraseology.
4. Receives, acknowledges, and complies with radio communications.

III. AREA OF OPERATION:

NORMAL TAKEOFF AND LANDING

A. TASK: NORMAL AND CROSSWIND TAKEOFF (ASEL)

PILOT OPERATION - 8

REFERENCE: AC 61-21.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the elements of normal and crosswind takeoffs, including airspeeds, configurations, and emergency procedures.
2. Verifies the wind direction.
3. Aligns the airplane on the runway centerline.
4. Applies full aileron deflection in the proper direction, where crosswind exists.
5. Advances the throttle smoothly to maximum allowable power.
6. Checks the engine instruments.
7. Maintains directional control on the runway centerline.
8. Adjusts aileron deflection during acceleration (crosswind conditions).
9. Rotates at the recommended[1] airspeed, accelerates to V_Y, and establishes wind-drift correction (crosswind conditions).
10. Establishes the pitch attitude for V_Y and maintains V_Y, ± 10 knots.
11. Retracts the wing flaps as recommended or at a safe altitude.
12. Maintains takeoff power to a safe maneuvering altitude.
13. Maintains a straight track over the extended runway centerline until a turn is required.
14. Completes after-takeoff checklist.

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[1]The term "recommended" refers to the manufacturer's recommendation. If the manufacturer's recommendation is not available, the description contained in AC 61-21 will be used.

B. TASK: GO-AROUND (ASEL)

PILOT OPERATION - 8

REFERENCE: AC 61-21.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the elements of the go-around procedure, including making timely decisions, recommended airspeeds, drag effect of wing flaps, and coping with undesirable pitch and yaw tendencies.
2. Makes a timely decision to go around from a rejected landing.
3. Applies takeoff power and establishes the proper pitch attitude to attain the recommended airspeed.
4. Retracts the wing flaps as recommended or at a safe altitude.
5. Trims the airplane and climbs at V_Y, ± 10 knots, and tracks the appropriate traffic pattern.

C. TASK: NORMAL AND CROSSWIND LANDING (ASEL)

PILOT OPERATION - 8

REFERENCE: AC 61-21.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the elements of normal and crosswind landings, including crosswind limitations, airspeeds, configurations, and related safety factors.
2. Maintains the proper ground track on final approach.
3. Establishes the approach and landing configuration and power required.
4. Maintains the recommended approach airspeed, ±5 knots.
5. Makes smooth, timely, and correct control application during the final approach and transition from the approach to landing roundout.
6. Touches down smoothly at approximate stalling speed, beyond and within 500 feet of a specified point, with no appreciable drift, and airplane longitudinal axis aligned with the runway centerline.
7. Maintains directional control, increasing aileron deflection into the wind, as necessary, during the after-landing roll.

IV. AREA OF OPERATION:

MAXIMUM PERFORMANCE TAKEOFF AND LANDING

A. TASK: SHORT-FIELD TAKEOFF (ASEL)

PILOT OPERATION - 7

REFERENCE: AC 61-21.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the elements of a short-field takeoff, including the significance of appropriate airspeeds and configurations, emergency procedures, and the expected performance for existing operating conditions.
2. Selects the recommended wing flap setting.
3. Positions the airplane at the beginning of the takeoff runway aligned on the runway centerline.
4. Advances the throttle smoothly to maximum allowable power.
5. Maintains directional control on the runway centerline.
6. Rotates at the recommended airspeed and accelerates to V_X.
7. Climbs at V_X or recommended airspeed, $+5$, -0 knots until obstacle is cleared, or until at least 50 feet above the surface, then accelerates to V_Y and maintains V_Y, ± 10 knots.
8. Retracts the wing flaps as recommended or at a safe altitude.
9. Maintains takeoff power to a safe maneuvering altitude.
10. Maintains a straight track over the extended runway centerline until a turn is required.
11. Completes after-takeoff checklist.

B. TASK: SHORT-FIELD LANDING (ASEL)

PILOT OPERATION - 7

REFERENCE: AC 61-21.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the elements of a short-field landing, including airspeeds, configurations, and related safety factors.
2. Considers obstructions, landing surface, and wind conditions.
3. Selects a suitable touchdown point.
4. Establishes the short-field landing configuration, airspeed, and descent angle.
5. Maintains control of the descent rate and the recommended airspeed, ±5 knots, along the extended runway centerline.
6. Touches down beyond and within 200 feet of a specified point, with minimum float and no appreciable drift and airplane longitudinal axis aligned with the runway centerline.
7. Maintains directional control during the after-landing roll.
8. Applies braking and controls, as necessary, to stop in the shortest distance, consistent with safety.

C. TASK: SOFT-FIELD TAKEOFF (ASEL)

PILOT OPERATION – 7

REFERENCE: AC 61-21.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the elements of a soft-field takeoff, including the significance of appropriate airspeeds and configurations, emergency procedures, and hazards associated with climbing at an airspeed less than V_X.
2. Selects the recommended wing flap setting.
3. Taxies onto the takeoff surface at a speed consistent with safety.
4. Aligns the airplane on takeoff path without stopping and advances the throttle smoothly to maximum allowable power.
5. Adjusts and maintains a pitch attitude which transfers the weight from the wheels to the wings as rapidly as possible.
6. Maintains directional control on the center of the takeoff path.
7. Lifts off at the lowest possible airspeed and remains in ground effect while accelerating.
8. Accelerates to and maintains V_X, $+5$, -0 knots, if obstructions must be cleared, otherwise to V_Y, ± 10 knots.
9. Retracts the wing flaps as recommended or at a safe altitude.
10. Maintains takeoff power to a safe maneuvering altitude.
11. Maintains a straight track over the center of the extended takeoff path until a turn is required.
12. Completes after-takeoff checklist.

D. TASK: SOFT-FIELD LANDING (ASEL)

PILOT OPERATION - 7

REFERENCE: AC 61-21.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the elements of a soft-field landing procedure, including airspeeds, configurations, operations on various surfaces, and related safety factors.
2. Evaluates obstructions, landing surface, and wind conditions.
3. Establishes the recommended soft-field approach and landing configuration and airspeed.
4. Maintains recommended airspeed, ±5 knots, along the extended runway centerline.
5. Touches down smoothly at minimum descent rate and groundspeed with no appreciable drift and airplane longitudinal axis aligned with runway centerline.
6. Maintains directional control during the after-landing roll.
7. Maintains proper position of flight controls and sufficient speed to taxi on soft surface.

V. AREA OF OPERATION:

FLIGHT AT CRITICALLY SLOW AIRSPEED

A. TASK: STALL - POWER-ON (ASEL)

PILOT OPERATION - 5

REFERENCE: AC 61-21.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the aerodynamic factors and flight situations that may result in stalls - power-on, including proper recovery procedures, and hazards of stalling during uncoordinated flight.
2. Selects an entry altitude that will allow a recovery to be completed no lower than 1,500 feet AGL.
3. Establishes takeoff or normal climb configuration.
4. Establishes takeoff or climb airspeed before applying takeoff or climb power (reduced power may be used to avoid excessive pitch-up during entry only).
5. Establishes and maintains a pitch attitude straight ahead that will induce a stall.
6. Establishes and maintains a pitch attitude that will induce a stall in a turn with a bank angle of 20°, ±10°.
7. Applies proper control to maintain coordinated flight.
8. Recognizes the indications of a stall and promptly recovers with a minimum loss of altitude by simultaneously decreasing the angle of attack, leveling the wings, and adjusting the power as necessary to regain normal flight attitude.
9. Avoids a secondary stall.
10. Retracts the wing flaps and establishes straight-and-level flight.

B. TASK: STALL - POWER-OFF (ASEL)

PILOT OPERATION - 5

REFERENCE: AC 61-21.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the aerodynamic factors and flight situations that may result in stalls - power-off, including proper recovery procedures, and hazards of stalling during uncoordinated flight.
2. Selects an entry altitude that will allow a recovery to be completed no lower than 1,500 feet AGL.
3. Establishes the normal approach or landing configuration and airspeed with the throttle closed or at a reduced power setting.
4. Establishes a straight glide or a gliding turn with a bank angle of 30°, ±10°, in coordinated flight.
5. Establishes and maintains a landing pitch attitude that will induce a stall.
6. Recognizes the indications of a stall and promptly recovers with a minimum loss of altitude by simultaneously decreasing the angle of attack, leveling the wings, and adjusting the power as necessary to regain normal flight attitude.
7. Avoids a secondary stall.
8. Retracts the wing flaps and establishes straight-and-level flight.

C. TASK: MANEUVERING DURING SLOW FLIGHT (ASEL)

PILOT OPERATION - 5

REFERENCE: AC 61-21.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the flight characteristics and controllability associated with maneuvering during slow flight.
2. Selects an entry altitude that will allow the maneuver to be performed no lower than 1,500 feet AGL.
3. Establishes and maintains slow flight during coordinated straight and turning flight in various configurations and bank angles.
4. Maintains the desired altitude, ±100 feet.
5. Maintains the specified heading during straight flight, ±10°.
6. Maintains the specified bank angle, ±10°, during turning flight.
7. Maintains an airspeed of 10 knots above stall speed, ±5 knots.

D. TASK: CONSTANT-ALTITUDE TURN (ASEL)

PILOT OPERATION – 5

REFERENCE: AC 61-21.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the performance factors associated with constant-altitude turns, including increased load factors, power required, and overbanking tendency.
2. Selects an altitude that will allow the maneuver to be performed no lower than 1,500 feet AGL.
3. Establishes an airspeed which does not exceed airplane design maneuvering airspeed.
4. Enters a 360° turn, maintaining a bank angle of 40° to 50°, in coordinated flight.
5. Divides attention between airplane control and orientation.
6. Rolls out at the desired heading, ±10°.
7. Maintains the desired altitude, ±200 feet.

VI. AREA OF OPERATION:

FLIGHT MANEUVERING BY REFERENCE TO GROUND OBJECTS

A. TASK: RECTANGULAR COURSE (ASEL)

PILOT OPERATION – 3

REFERENCE: AC 61-21.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining wind-drift correction in straight and turning flight and the relationship of the rectangular course to airport traffic patterns.
2. Selects a suitable reference area.
3. Enters a left or right pattern at a desired distance from the selected reference area and at 600 to 1,000 feet AGL.
4. Divides attention between airplane control and ground track, and maintains coordinated flight control.
5. Applies the necessary wind-drift corrections during straight and turning flight to track a uniform distance outside the selected reference area.
6. Maintains the desired altitude, ±100 feet.
7. Maintains the desired airspeed, ±10 knots.
8. Avoids bank angles in excess of 45°.
9. Reverses course as directed by the examiner.

B. TASK: "S-TURNS" ACROSS A ROAD (ASEL)

PILOT OPERATION - 3

REFERENCE: AC 61-21.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the procedures associated with "S-turns," and wind-drift correction throughout the maneuver.
2. Selects a suitable ground reference line.
3. Enters perpendicular to the selected reference line at 600 to 1,000 feet AGL.
4. Divides attention between airplane control and ground track, and maintains coordinated flight control.
5. Applies the necessary wind-drift correction to track a constant radius turn on each side of the selected reference line.
6. Reverses the direction of turn directly over the selected reference line.
7. Maintains the desired altitude, ±100 feet.
8. Maintains the desired airspeed, ±10 knots.
9. Avoids bank angles in excess of 45°.

C. TASK: TURNS AROUND A POINT (ASEL)

PILOT OPERATION - 3

REFERENCE: AC 61-21.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the procedures associated with turns around a point and wind-drift correction throughout the maneuver.
2. Selects a suitable ground reference point.
3. Enters a left or right turn at a desired distance from the selected reference point at 600 to 1,000 feet AGL.
4. Divides attention between airplane control and ground track, and maintains coordinated flight control.
5. Applies the necessary wind-drift corrections to track a constant radius turn around the selected reference point.
6. Maintains the desired altitude, ±100 feet.
7. Maintains the desired airspeed, ±10 knots.

VII. AREA OF OPERATION:

NAVIGATION

A. TASK: PILOTAGE (ASEL)

PILOT OPERATION - 4

REFERENCES: AC 61-21, AC 61-23.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining pilotage techniques and procedures.
2. Follows the preplanned course solely by visual reference to landmarks, with the aid of a magnetic compass.
3. Identifies landmarks by relating the surface features to chart symbols.
4. Verifies airplane position within 3 nautical miles at all times.
5. Maintains the selected altitudes, ±200 feet.
6. Maintains the appropriate power setting for the desired airspeed.
7. Maintains the desired heading, ±10°.
8. Follows the climb, cruise, and descent checklists.
9. Requests in-flight weather information and uncontrolled airport traffic advisories, as necessary, and properly operates the transponder. (Note: These requirements may be simulated in flight by the examiner when testing the applicant whose airplane IS radio or transponder equipped, and will be orally tested ONLY for the applicant whose airplane IS NOT radio or transponder equipped.)

B. TASK: DIVERSION (ASEL)

PILOT OPERATION - 4

REFERENCES: AC 61-21, AC 61-23.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining the procedures for diverting to an alternate airport, including the recognition of conditions requiring a diversion.
2. Selects an alternate airport and route.
3. Proceeds promptly toward the alternate airport.
4. Makes a reasonable estimate of heading and fuel consumption.
5. Maintains the appropriate altitude, ±200 feet and the desired airspeed, ±10 knots.

C. TASK: LOST PROCEDURE (ASEL)

PILOT OPERATION - 4

REFERENCES: AC 61-21, AC 61-23.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining lost procedures, including the following items -
   - **a.** maintaining the original or an appropriate heading, identifying landmarks, and climbing, if necessary or possible.
   - **b.** proceeding to and identifying the nearest concentration of prominent landmarks.
   - **c.** planning a precautionary landing if deteriorating visibility and/or fuel exhaustion is imminent.
2. Selects the best course of action when given a lost situation.

VIII. AREA OF OPERATION:

EMERGENCY OPERATION

A. TASK: SYSTEMS AND EQUIPMENT MALFUNCTIONS (ASEL)

PILOT OPERATION - 6

REFERENCES: AC 61-21; Pilot's Operating Handbook and FAA-Approved Airplane Flight Manual.

Objective. To determine that the applicant:

1. Exhibits knowledge, as appropriate, by explaining causes, indications, and pilot actions for various systems and equipment malfunctions.

2. Analyzes the situation and takes appropriate action for simulated emergencies such as -

   a. partial power loss.
   b. rough running engine or overheat.
   c. carburetor or induction icing.
   d. loss of oil pressure.
   e. fuel starvation.
   f. engine compartment fire.
   g. electrical system malfunction.
   h. flap malfunction.
   i. door opening in flight.
   j. trim inoperative.
   k. other malfunctions.

B. TASK: EMERGENCY APPROACH AND LANDING (SIMULATED) (ASEL)

PILOT OPERATION - 6

REFERENCE: AC 61-21.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining approach and landing procedures to be used in various emergencies.
2. Establishes and maintains the recommended best-glide airspeed and configuration during simulated emergencies.
3. Selects a suitable landing area within gliding distance.
4. Plans and follows a flight pattern to the selected landing area, considering altitude, wind, terrain, obstructions, and other factors.
5. Follows an appropriate emergency checklist.
6. Attempts to determine the reason for the simulated malfunction.
7. Maintains correct control of the airplane.

C. TASK: RADIO COMMUNICATIONS (ASEL)

PILOT OPERATION - 6

REFERENCE: AIM.

NOTE: For the applicant whose airplane IS NOT radio or transponder equipped, this task will be orally tested ONLY. For the applicant whose airplane IS radio or transponder equipped, this task may be simulated in flight by the examiner.

Objective. To determine that the applicant:

1. Exhibits knowledge by explaining radio communications or transponder operation procedures to be used in the event an emergency occurs.
2. Selects the appropriate emergency radio frequency (121.5 MHz) and/or adjusts transponder to appropriate emergency code.
3. Understands that two-way radio communications and/or radar coverage may not be available.

PRACTICAL TEST CHECKLIST

(ASEL)

(SUGGESTED)

APPLICANT'S NAME _____

EXAMINER'S NAME _____

DATE _____

TYPE CHECK _____

I. PREFLIGHT PREPARATION

- ☐ A. Certificates and Documents
- ☐ B. Obtaining Weather Information
- ☐ C. Determining Performance and Limitations
- ☐ D. Airplane Systems
- ☐ E. Aeromedical Factors
- ☐ F. Visual Inspection
- ☐ G. Cockpit Management
- ☐ H. Engine Start
- ☐ I. Taxi
- ☐ J. Pretakeoff Check

II. AIRPORT AND TRAFFIC PATTERN OPERATION

- ☐ A. Airport and Runway Marking and Lighting
- ☐ B. Traffic Pattern Operation
- ☐ C. Postflight Procedure
- ☐ D. Radio Communications

III. NORMAL TAKEOFF AND LANDING

- ☐ A. Normal and Crosswind Takeoff
- ☐ B. Go-Around
- ☐ C. Normal and Crosswind Landing

IV. MAXIMUM PERFORMANCE TAKEOFF AND LANDING

- ☐ A. Short-Field Takeoff
- ☐ B. Short-Field Landing
- ☐ C. Soft-Field Takeoff
- ☐ D. Soft-Field Landing

V. FLIGHT AT CRITICALLY SLOW AIRSPEED

- ☐ A. Stall — Power-On
- ☐ B. Stall — Power-Off
- ☐ C. Maneuvering During Slow Flight
- ☐ D. Constant-Altitude Turn

VI. FLIGHT MANEUVERING BY REFERENCE TO GROUND OBJECTS

- ☐ **A.** Rectangular Course
- ☐ **B.** "S-Turns" Across a Road
- ☐ **C.** Turns Around a Point

VII. NAVIGATION

- ☐ **A.** Pilotage
- ☐ **B.** Diversion
- ☐ **C.** Lost Procedure

VIII. EMERGENCY OPERATION

- ☐ **A.** Systems and Equipment Malfunctions
- ☐ **B.** Emergency Approach and Landing (Simulated)
- ☐ **C.** Radio Communications

APPLICANT'S PRACTICAL TEST CHECKLIST

(SUGGESTED)

APPOINTMENT WITH INSPECTOR OR EXAMINER:

NAME _____

TIME/DATE _____

ACCEPTABLE AIRCRAFT

- ☐ Aircraft Documents:
  - Airworthiness Certificate
  - Registration Certificate
  - Operating Limitations
- ☐ Aircraft Maintenance Records:
  - Airworthiness Inspections

PERSONAL EQUIPMENT

- ☐ Current Aeronautical Charts
- ☐ Current AIM

PERSONAL RECORDS

- ☐ Student Pilot Certificate
- ☐ Medical Certificate
- ☐ Completed FAA Form 8710-1, Airman Certificate and/or Rating Application
- ☐ AC Form 8080-2, Airman Written Test Report
- ☐ Logbook with Instructor's Endorsement
- ☐ Notice of Disapproval (if applicable)
- ☐ Approved School Graduation Certificate (if applicable)
- ☐ Examiner's Fee (if applicable)

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